IN THE CLAIMS:

Please cancel claims 1-20 without prejudice.

In accordance with the Revised Rules under 37 C.F.R. 1.121, please amend the claims as shown below and indicated as "currently amended." Also shown below are claims that may be original, cancelled, withdrawn, previously presented, new, and not entered.

21. (new) A reactor comprising:

- an inner metal wall, and
- a floating lining comprising a plurality of reinforced fluoropolymer plates said plates comprising a layer of fluoropolymer on one of its faces, and a sheet of carbon fibers on the other face, at least part of the sheet of carbon fibers being impregnated with fluoropolymer, said plates being butt-welded together, said floating lining being situated on all or part of the inner wall of the reactor, the face of the lining comprising carbon fibers free from fluoropolymer being positioned against the inner metal wall of the reactor.

22. (new) The reactor as claimed in claim 21, additionally comprising:

a plurality of orifices in the inner wall, connected to a network of pipes;

a pressure-regulating device connected to the network of pipes maintaining the pressure inside the space between the fluoropolymer layer and the lower inner wall at the pressure existing inside the reactor.

23. (new) The reactor as claimed in claim 21, in which the polymer-impregnated thickness of the plates represents at least 10% of the thickness of the sheet of carbon fibers.

24. (new) The reactor as claimed in claim 23, in which the polymer-impregnated thickness of the plates represents 10% to 90% of the thickness of the sheet of carbon fibers.

25. (new) The reactor as claimed in claim 21, in which the fluoropolymer is chosen from the group consisting of polychlorotrifluoroethylene (PCTFE), polyvinylidene fluoride (PVDF), copolymers of tetrafluoroethylene and perfluoropropene (FEP), copolymers of tetrafluoroethylene

and perfluoro-propylvinylether (PFA), copolymers of tetrafluoroethylene and ethylene (ETFE), polymers of trifluorochloroethylene and ethylene (E-CTFE) and blends thereof.

26. (new) The reactor as claimed in claim 21, in which the fluoropolymer is the copolymer of tetrafluoroethylene and hexafluoropropylene (FEP).

27. (new) The reactor as claimed in claim 21, in which the total thickness having said plates lies between 1 and 20 mm.

28. (new) The reactor as claimed in claim 27, in which the total thickness of the plates lies between 2 and 5 mm.

29. (new) The reactor as claimed in claim 21, in which the sheet of carbon fibers is in the form of a woven or nonwoven sheet

30. (new) The reactor as claimed in claim 21, in which the sheet of carbon fibers is in the form of a sheet of crossed carbon fibers.

31. (new) The reactor as claimed in claim 21, in which the sheet of carbon fibers has a thickness of between 0.1 and 10 mm.

32. (new) The reactor as claimed in claim 31, in which the sheet of carbon fibers has a thickness of between 0.5 and 3 mm.

33. (new) The reactor as claimed in claim 21 wherein said plates comprising:

- a layer of fluoropolymer on one of the faces of the plate,
- a layer of carbon fibers free from fluoropolymer on the other face of the plate, and
- a central layer consisting of carbon fibers impregnated with fluoropolymer.

34. (new) A reactor comprising an inner wall, comprising one or more reinforced fluoropolymer plates comprising a layer of fluoropolymer on one of its faces, and a sheet of carbon fibers on the other face, at least part of the sheet of carbon fibers being impregnated with fluoropolymer, said inner wall being reinforced with a layer made of composite resin material and carbon fibers.

35. (new) The reactor as claimed in claim 34 comprising, around the inner wall, an additional, noncontiguous outer metal jacket.

36. (new) The reactor as claimed in claim 34, in which the polymer-impregnated thickness of the plates represents at least 10% of the thickness of the sheet of carbon fibers.

37. (new) The reactor as claimed in claim 34, in which the polymer-impregnated thickness of the plates represents 10% to 90% of the thickness of the sheet of carbon fibers.

38. (new) The reactor as claimed in claim 34, in which the fluoropolymer is chosen from the group consisting of polychlorotrifluoroethylene (PCTFE), polyvinylidene fluoride (PVDF), copolymers of tetrafluoroethylene and perfluoropropene (FEP), copolymers of tetrafluoroethylene and perfluoro-propylvinylether (PFA), copolymers of tetrafluoroethylene and ethylene (ETFE), polymers of trifluorochloroethylene and ethylene (E-CTFE) and blends thereof.

39. (new) The reactor as claimed in claim 34, in which the fluoropolymer is the copolymer of tetrafluoroethylene and hexafluoropropylene (FEP).

40. (new) The reactor as claimed in claim 34, in which the total thickness of the plates lies between 1 and 20 mm.

41. (new) The reactor as claimed in claim 34, in which the total thickness of the plates lies between 2 and 5 mm.

42. (new) The reactor as claimed in claim 34, in which the sheet of carbon fibers is in the form of a woven or nonwoven sheet

43. (new) The reactor as claimed in claim 34, in which the sheet of carbon fibers is in the form of a sheet of crossed carbon fibers.

44. (new) The reactor as claimed in claim 34, in which the sheet of carbon fibers has a thickness of between 0.1 and 10 mm.

45. (new) The reactor as claimed in claim 44, in which the sheet of carbon fibers has a thickness of between 0.5 and 3 mm.

46. (new) The reactor as claimed in claim 34, wherein said plates comprising:
- a layer of fluoropolymer on one of the faces of the plate,
- a layer of carbon fibers free from fluoropolymer on the other face of the plate, and
- a central layer consisting of carbon fibers impregnated with fluoropolymer.

47. (new) A method for producing the reinforced fluoropolymer plates comprising a layer of fluoropolymer on one of its faces, and a sheet of carbon fibers on the other face, at least part of the sheet of carbon fibers being impregnated with fluoropolymercomprising:
- bringing the sheet of carbon fibers into contact with the fluoropolymer;
- melting one face of the fluoropolymer plate; and
- pressing the polymer until cool.

48. (new) The production method as claimed in claim 47, wherein:
- one face of the fluoropolymer plate is brought into contact and melted by extruding said fluoropolymer onto the sheet of fibers.

49. (new) The method as claimed in claim 47, in which the polymer-impregnated thickness of the plates represents at least 10% of the thickness of the sheet of carbon fibers.

50. (new) The method as claimed in claim 47, in which the polymer-impregnated thickness of the plates represents 10% to 90% of the thickness of the sheet of carbon fibers.

51. (new) The method as claimed in claim 47, in which the fluoropolymer is chosen from the group consisting of polychlorotrifluoroethylene (PCTFE), polyvinylidene fluoride (PVDF), copolymers of tetrafluoroethylene and perfluoropropene (FEP), copolymers of tetrafluoroethylene and perfluoro-propylvinylether (PFA), copolymers of tetrafluoroethylene and ethylene (ETFE), polymers of trifluorochloroethylene and ethylene (E-CTFE) and blends thereof.

52. (new) The method as claimed in claim 47, in which the fluoropolymer is the copolymer of tetrafluoroethylene and hexafluoropropylene (FEP).

53. (new) The method as claimed in claim 47, in which the total thickness of the plates lies between 1 and 20 mm.

54. (new) The method as claimed in claim 53, in which the total thickness of the plates lies between 2 and 5 mm.

55. (new) The method as claimed in claim 47, in which the sheet of carbon fibers is in the form of a woven or nonwoven sheet

56. (new) The method as claimed in claim 47, in which the sheet of carbon fibers is in the form of a sheet of crossed carbon fibers.

57. (new) The method as claimed in claim 47, in which the sheet of carbon fibers has a thickness of between 0.1 and 10 mm.

58. (new) The method as claimed in claim 57, in which the sheet of carbon fibers has a thickness of between 0.5 and 3 mm.

59. (new) The method as claimed in claim 47 wherein said plates comprising:

- a layer of fluoropolymer on one of the faces of the plate,
- a layer of carbon fibers free from fluoropolymer on the other face of the plate, and
- a central layer consisting of carbon fibers impregnated with fluoropolymer.

60. (new) A method for producing a reactor as claimed in claim 21, provided with a floating lining, comprising:

- providing at least one reinforced fluoropolymer plate comprising a layer of fluoropolymer on one of its faces, and a sheet of carbon fibers on the other face, at least part of the sheet of carbon fibers being impregnated with fluoropolymer;
- cutting out and forming this plate inside a metal reactor, the face covered with carbon fiber fabric being in contact with the metal wall of the reactor;
- where appropriate, butt-welding the cut-outs of said at least one plate.

61. (new) A method for producing a reactor as claimed in claim 34, comprising:

- providing at least one reinforced fluoropolymer plate comprising a layer of fluoropolymer on one of its faces, and a sheet of carbon fibers on the other face, at least part of the sheet of carbon fibers being impregnated with fluoropolymer;
- cutting out and forming this plate on a former, the face made of fluoropolymer being in contact with the former;
- where appropriate, butt-welding the cut-outs of said at least one plate;
- applying at least one layer of composite material and carbon fibers to said free face and then polymerizing the composite material.

62. (new) A fluorination method in the liquid phase, in which said reaction is performed in a reactor as claimed in claims 21.

63. (new) The fluorination method as claimed in claim 62, in which the temperature lies between 60 and 150°C.

64. (new) A fluorination method in the liquid phase, in which said reaction is performed in a reactor as claimed in claim 34.

65. (new) The fluorination method as claimed in claim 64, in which the temperature lies between 60 and 150°C.